

REMARKS

The present invention provides 1-heterocyclylalkyl-3-sulfonylazaindole or -azaindazole compounds of formula I, and the therapeutic use thereof for the treatment of CNS disorders related to or affected by the 5-hydroxytryptamine-6 receptor.

Claims 1-20 are pending in this application. Claims 10-14 and 20 have been withdrawn. Claims 1, 9, 15 and 19 have been amended.

RESTRICTION

Examiner has required restriction of the claims under 35 USC §121 as follows:

- I. Claims 1-9 and 15-19 drawn to a compounds and compositions of formula I wherein W is CR₂;
- II. Claims 1-9 and 15-19 drawn to compounds and compositions of formula I wherein W is N;
- III. Claim 20 drawn to a process to prepare a compound of group I;
- IV. Claim 20 drawn to a process to prepare a compound of group II;
- V. Claims 10-14 drawn to a method of use of a compound of group I;
- VI. Claims 10-14 drawn to a method of use of a compound of group II.

Applicants respectfully traverse the restriction. Applicants have elected species 3-(3-chlorophenylsulfonyl)-1-(pyrrolidin-2-ylmethyl)-1H-pyrrolo[2,3-b]pyridine in the Response dated April 11, 2005; however, no election was made as to the foregoing groups. Applicants believe the claimed subject matter resulted from the same inventive effort. The process claims of groups III and IV are specifically limited to the preparation of compounds of groups I and II, respectively. Similarly, the method claims of groups V and VI are specifically limited to the compounds of groups I and II, respectively, and do not apply to other compounds or a materially different product. If a similar method were practiced with other compounds or a materially different product, the result would not be the same. The compounds of groups I and II provide novel 5-HT₆ receptor site activity which is crucial to the method of treating a disorder related to or affected by the 5-HT₆ receptor that comprises groups V and VI. The searches required for each of the above-identified groups overlap to the extent that such searches would not present an undue burden to Examiner. In fact, although Examiner has divided the invention into a total of six separate groups, said groups fall into a single class and only two subclasses, i.e. class 548, subclass 400 and class 548, subclass 125. Further, Examiner has indicated that rejoinder is possible once a claim has been found allowable. For the foregoing reasons, Applicants respectfully request that Examiner reconsider and withdraw the restriction set forth.

ELECTION

Notwithstanding the above, and solely in compliance with the provisions of 37 CFR §1.143, Applicants hereby provisionally elect group I, claims 1-9 and 15-19 drawn to compounds and compositions of formula I wherein W is CR₂ for prosecution herein. The remaining claims have not been cancelled in order to provide Examiner the opportunity to reconsider and withdraw the original scope of the restriction. Applicants reserve the right to file a divisional application on the non-elected subject matter.

The specification has been objected to because of an informality. Examiner has required a correction to the title of Example 7 on page 27.

Applicants have amended the specification to add the letter "e" to the title of Example 7, as required by Examiner. In view of this amendment, Applicants respectfully request Examiner to withdraw the objection to the disclosure.

Claims 1-9 and 15-19 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Edwards et al (WO 01/12629). Examiner alleges that Edwards et al disclose azaindazole derivatives which share the same formulaic compounds.

Applicants respectfully traverse the rejection. Edwards et al describe azaindoles having a piperazinyl or piperidinyl ring system attached directly to the 3-position of the azaindole ring and an arylsulfonyl, arylcarbonyl, arylalkyl or aryl group in the 1-position of the azaindole ring. In sharp contrast, the compounds of the invention have an R₁-sulfonyl group attached to the 3-position of an azaindazole or azaindole ring and a piperidinyl- or pyrrolyl-alkyl group in the 1-position of an azaindazole or azaindole ring. Clearly, the compounds described by Edwards et al do not have the same structure as the compounds of the invention nor do they fall within the range of the compounds of the invention. Applicants submit the substitutions at the 1- and 3-positions are not interchangeable. Edwards et al do not disclose nor anticipate the compounds of the invention. Accordingly, Applicants respectfully request that this rejection under 35 U.S.C. § 102(b) be withdrawn.

Claims 1-9 and 15-19 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Allen et al (WO 97/49698). Examiner states that Allen et al disclose azaindazole derivatives which share the same formulaic compounds.

Applicants respectfully traverse the rejection. Allen et al describe piperidine acetic acid derivatives of indazole and benzisoxazole ring systems having a piperidinyl-, piperazinyl- or quinuclidinylalkyl, -alkenyl or -alkynyl group in the 5-position of the indazole or benzisoxazole ring system. Allen et al do not describe an azaindazole derivative of any kind. In sharp contrast, the compounds of the invention are azaindole or azaindazole ring systems having a

unique 3-sulfonyl substitution. It is clear that the compounds described by Allen et al do not encompass, nor do they overlap with, the instant compounds of the invention. Allen et al do not anticipate, teach or describe the instant inventive compounds. In view of the foregoing, Applicants respectfully request that this rejection under 35 U.S.C. § 102(b) be withdrawn.

Claims 1-9 and 15-19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards et al (WO 01/12629). Examiner alleges that Edwards et al teach a generic group of azaindazole derivatives which embraces the instant claimed compounds.

Applicants respectfully traverse the rejection. Edwards et al describe 3-piperidinyl(-piperazinyl)azaindole derivatives and their serotonin receptor affinity. Contrariwise, the instant compounds of the invention are 3-sulfonylazaindole or 3-sulfonylazaindazole derivatives. The genus described by Edwards et al does not embrace the instant claimed formula I compounds. Edwards et al neither teach nor enable one of ordinary skill to make or use the compounds of the invention. In fact, Edwards et al teach away from the instant invention, since Edwards et al teach that a piperidinyl (piperazinyl) moiety in the 3-position of an azaindole ring system is required for serotonergic activity. One skilled in the art of medicinal chemistry would not be motivated by the teaching of Edwards et al to make or use the 3-sulfonyl compounds of the instant invention. Applicants believe the instant claims are patentable under 35 U.S.C. § 103(a) over Edwards et al.

Claims 1-9 and 15-19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Allen et al (WO97/49698). Examiner states that Allen et al teach a generic group of azaindazole derivatives which embraces the instant claimed compounds.

Applicants respectfully traverse the rejection. Allen et al describe piperidine acetic acid derivatives of indazole or benzisoxazole ring systems and their use in the treatment of thrombotic disorders. Specifically, Allen et al teach that said indazole or benzisoxazole derivatives inhibit fibrinogen-dependent platelet aggregation. In sharp contrast, the compounds of the instant invention are 3-sulfonylazaindole or 3-sulfonylazaindazole derivatives useful in the treatment of CNS disorders and specifically for the inhibition of the 5-HT₆ receptor. Clearly, the genus described by Allen et al does not embrace the instant inventive compounds. Neither do the compounds taught by Allen et al have similar properties to the compounds of the instant invention. The skilled chemist would not be motivated to make or use the compounds of the invention by the teachings of Allen et al. Applicants believe the instant claims are patentable under 35 U.S.C. § 103(a) over Allen et al.


CONCLUSION

In conclusion, Applicants believe that Examiner's objection to the disclosure has been overcome in view of the above amendment and all of Examiner's rejections have been overcome in view of the foregoing. Applicants respectfully request Examiner to enter the

above amendments, consider the above remarks, reconsider and withdraw the original scope of the restriction requirement, withdraw the rejections and allow the application.

Favorable treatment of the application is earnestly solicited.

Respectfully submitted,



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